



J-U-B ENGINEERS, Inc.

Orem, UT Office
(801) 226-0393

Procatello, ID Office
(208) 232-1313

BUILDING NAME:

PROJECT TITLE:

LOGAN, UTAH
DWR LOGAN FES
GENERAL
IMPROVEMENTS
RACEWAY PROJECT

ISSUE DATE: APRIL 22, 2003

DFCM PROJECT NO: 02255520

DFCM PROJECT NO: 02255520

CAD PROJECT NO: 57029

CAD DWG FILE: C-109.DWG
DRAWN BY: IDM

DRAWN BY: JDM

CHK'D BY: ZPM

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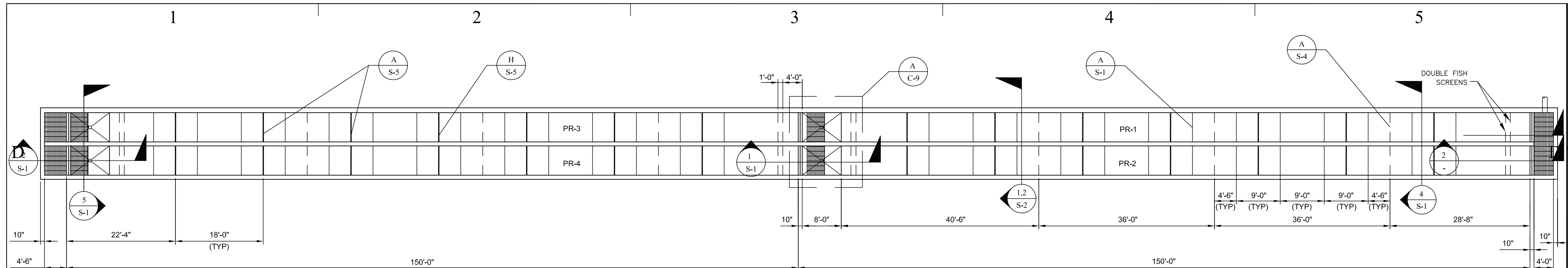
SHEET TITLE

RACEWAY DETAILS

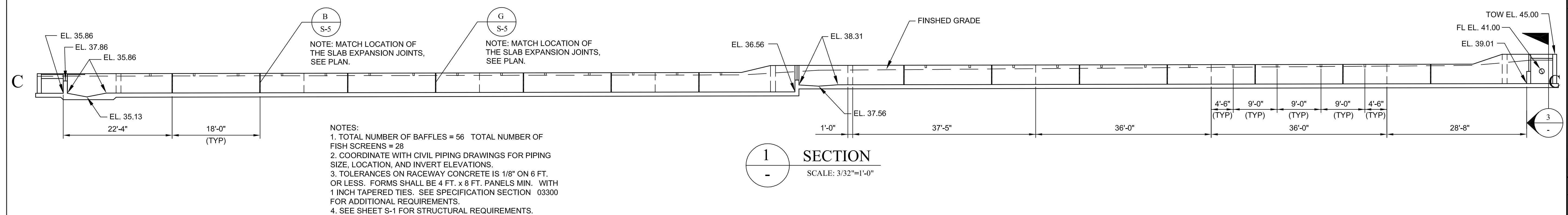
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C-9

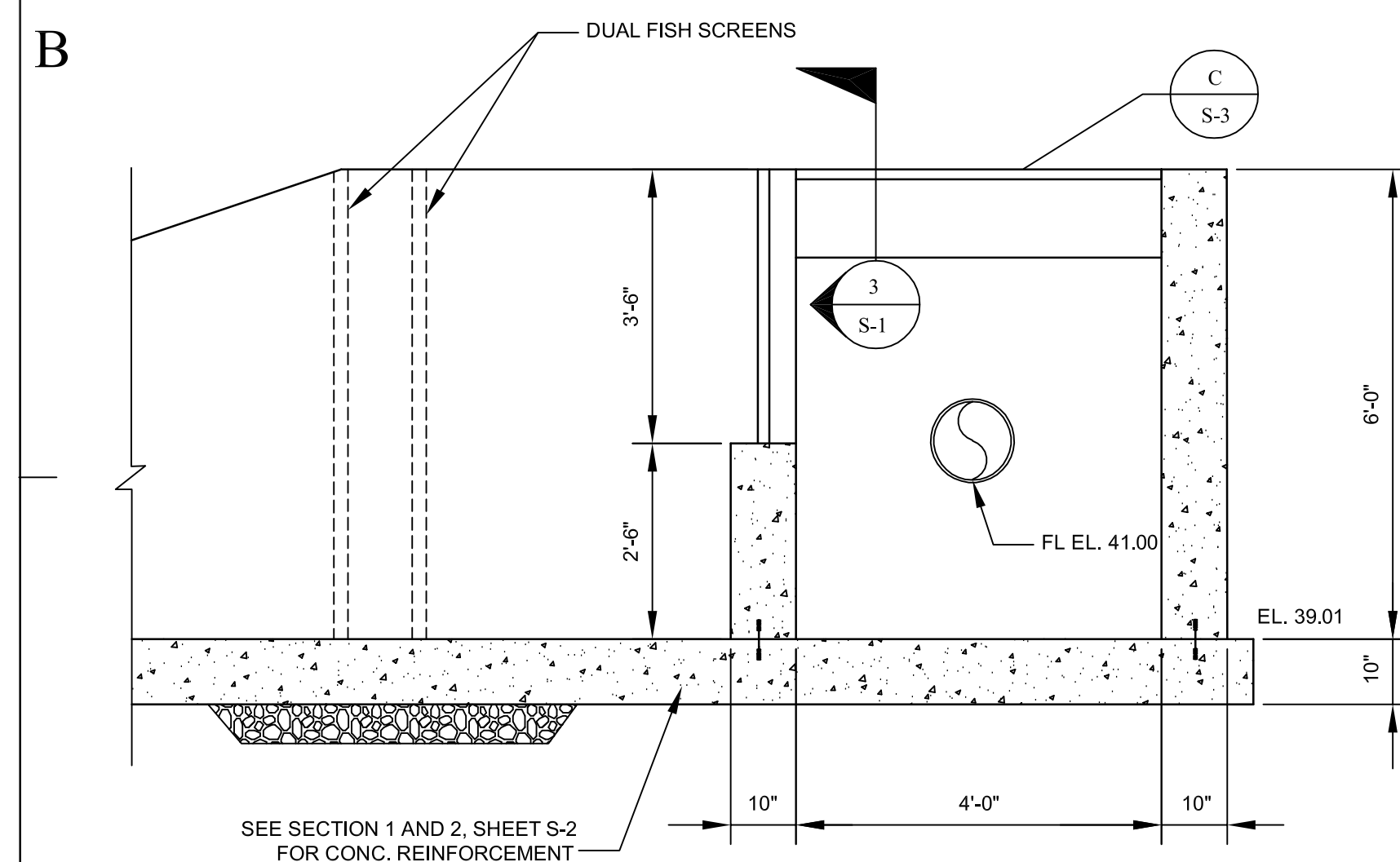
SHEET 12 OF 25



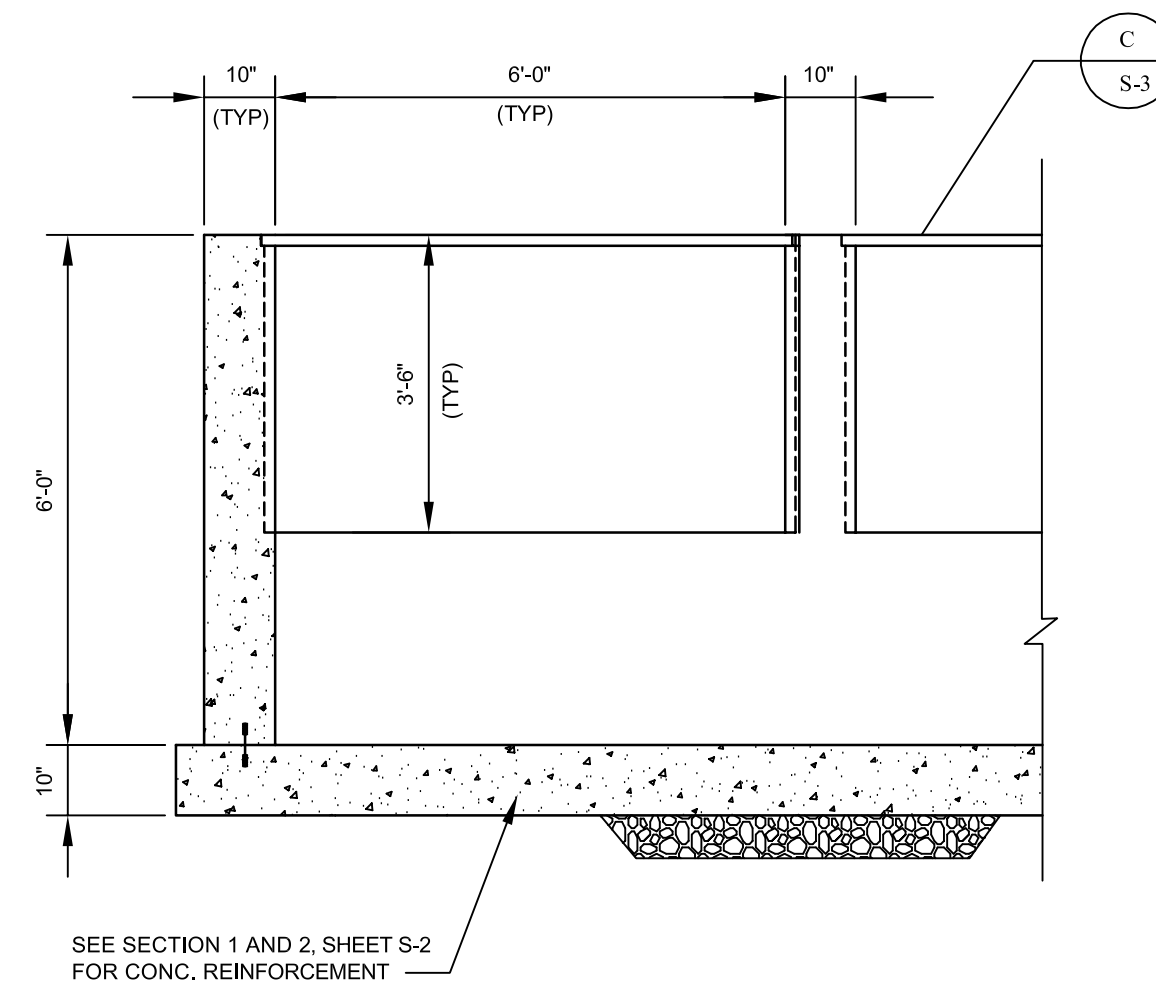
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C-2



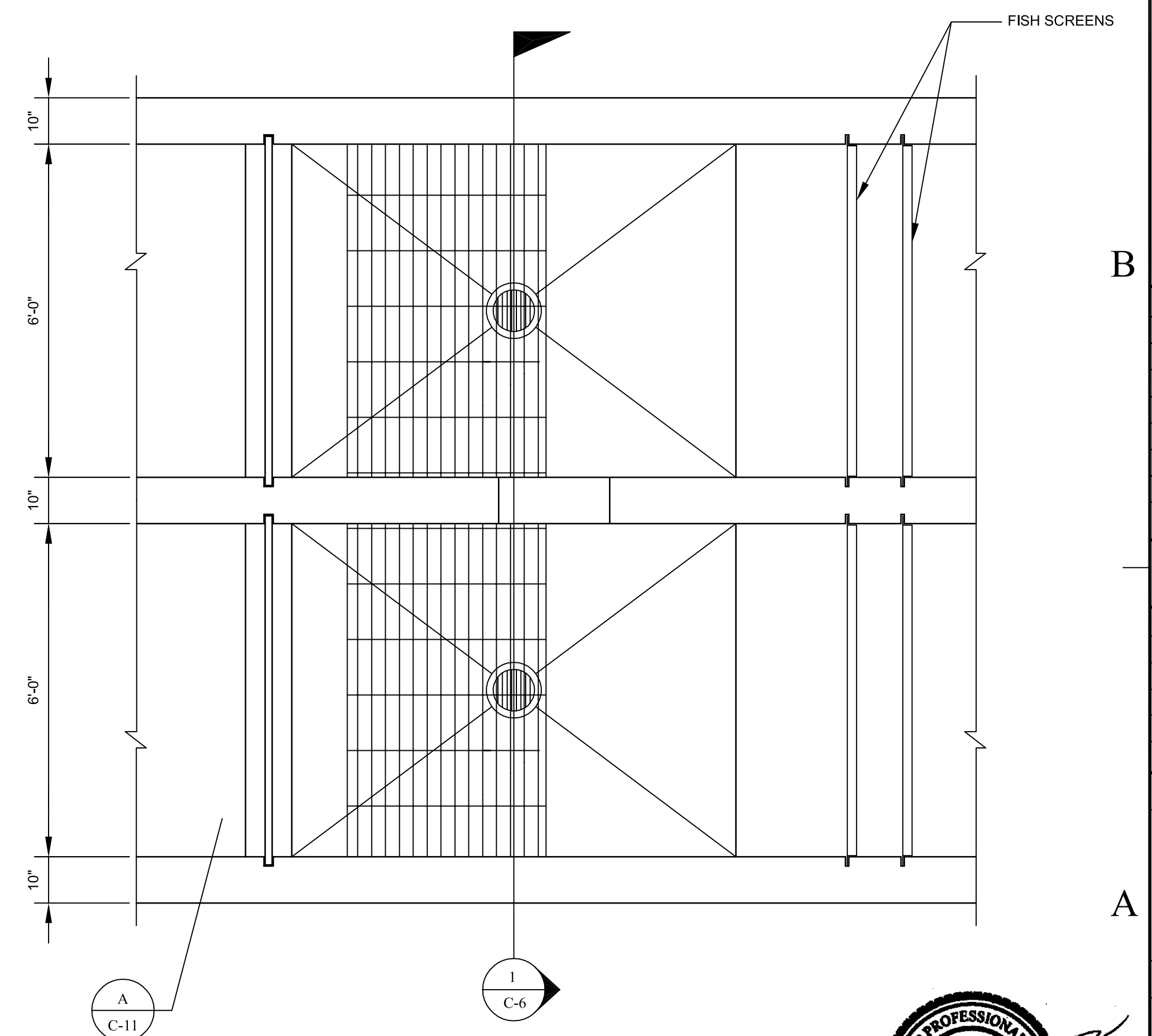
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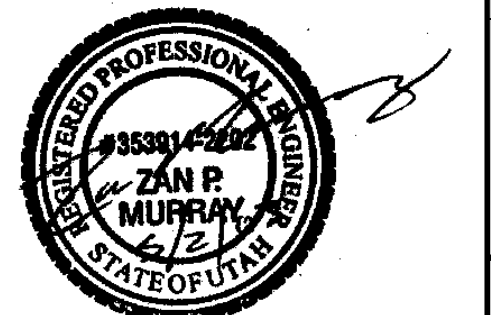
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3 SECTION
- SCALE: 1"=1'-0"



A DETAIL
- SCALE: 1/2"=1'-0"



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RM# 5605
DWR FISHERIES
EXPEIMENT STA.
1465 W 200 N
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CAD PROJECT NO: 57029

CAD DWG FILE: C-110.DWG

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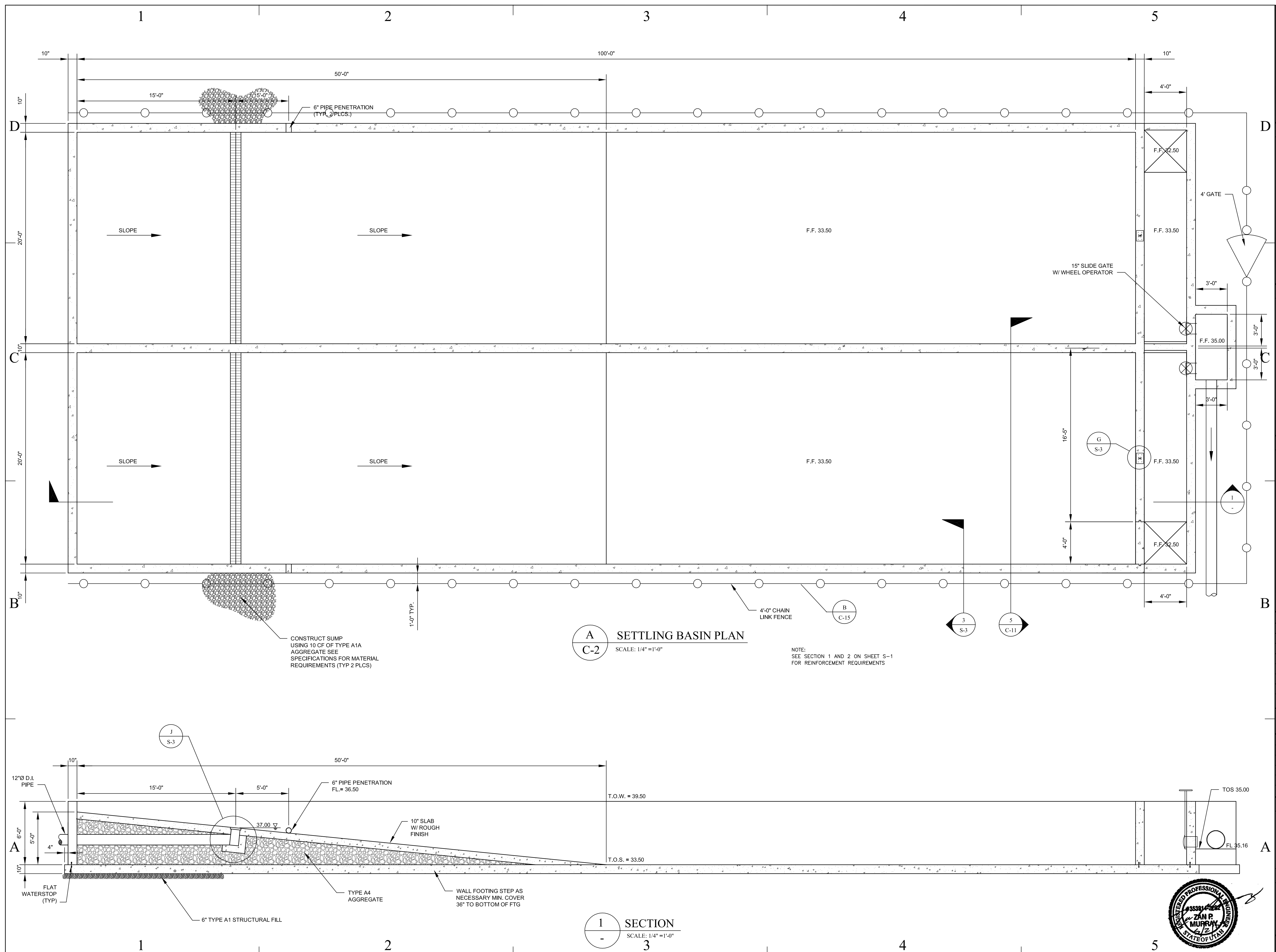
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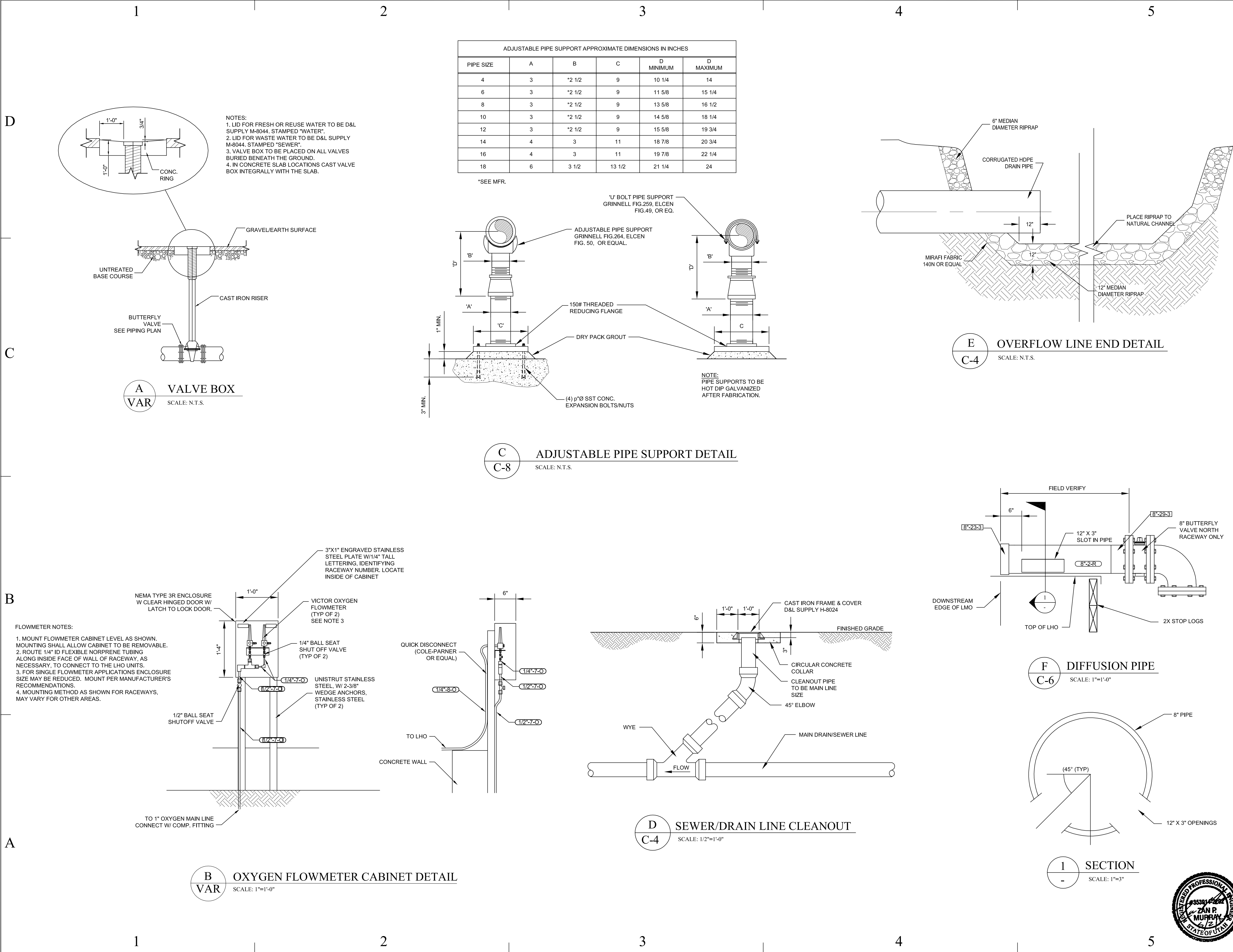
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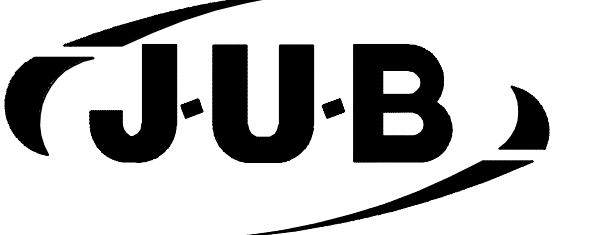
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C-10

SHEET 13 OF 25







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CAD DWG FILE: C-503.DWG

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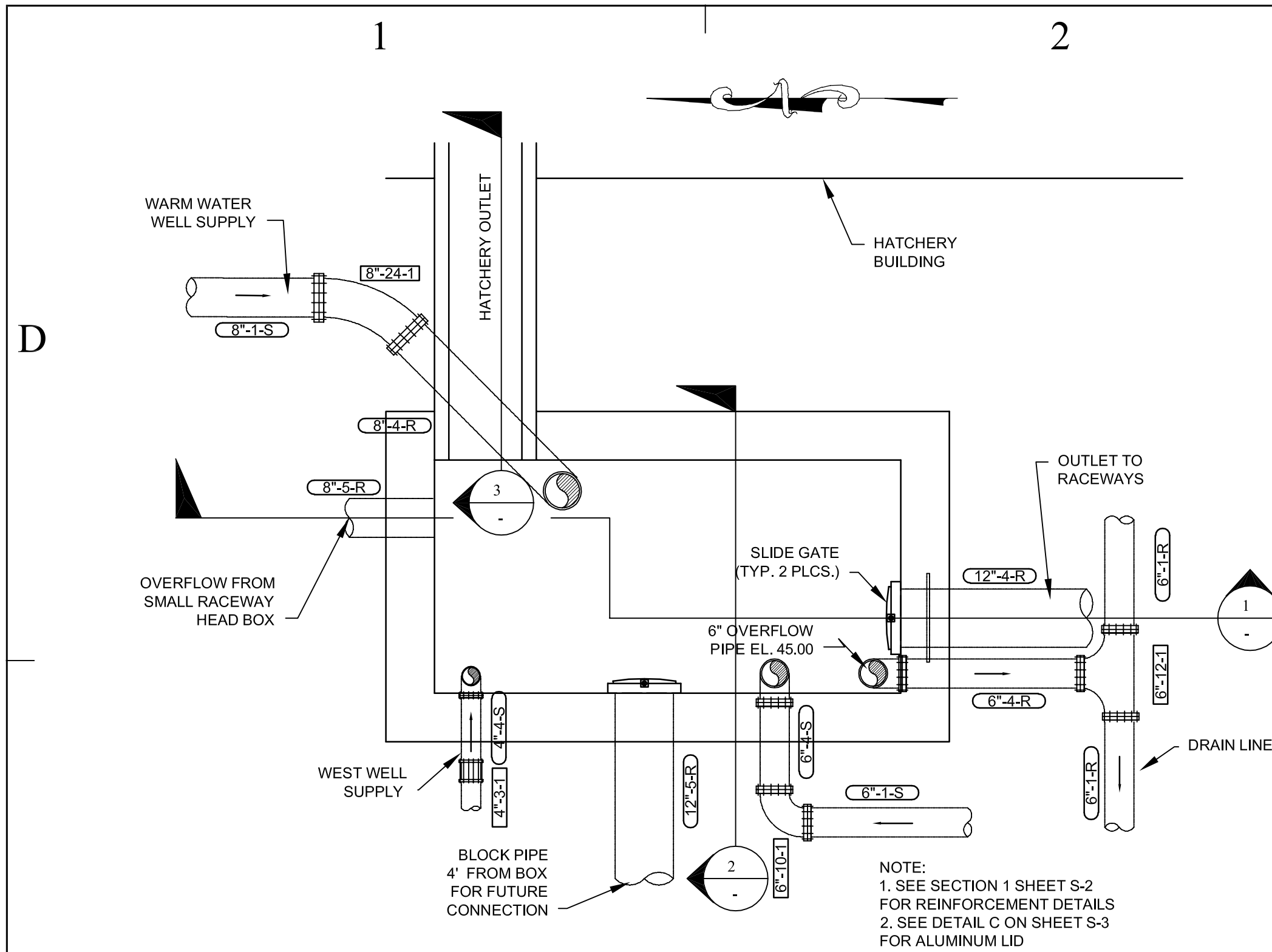
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COLLECTION BOX DETAILS

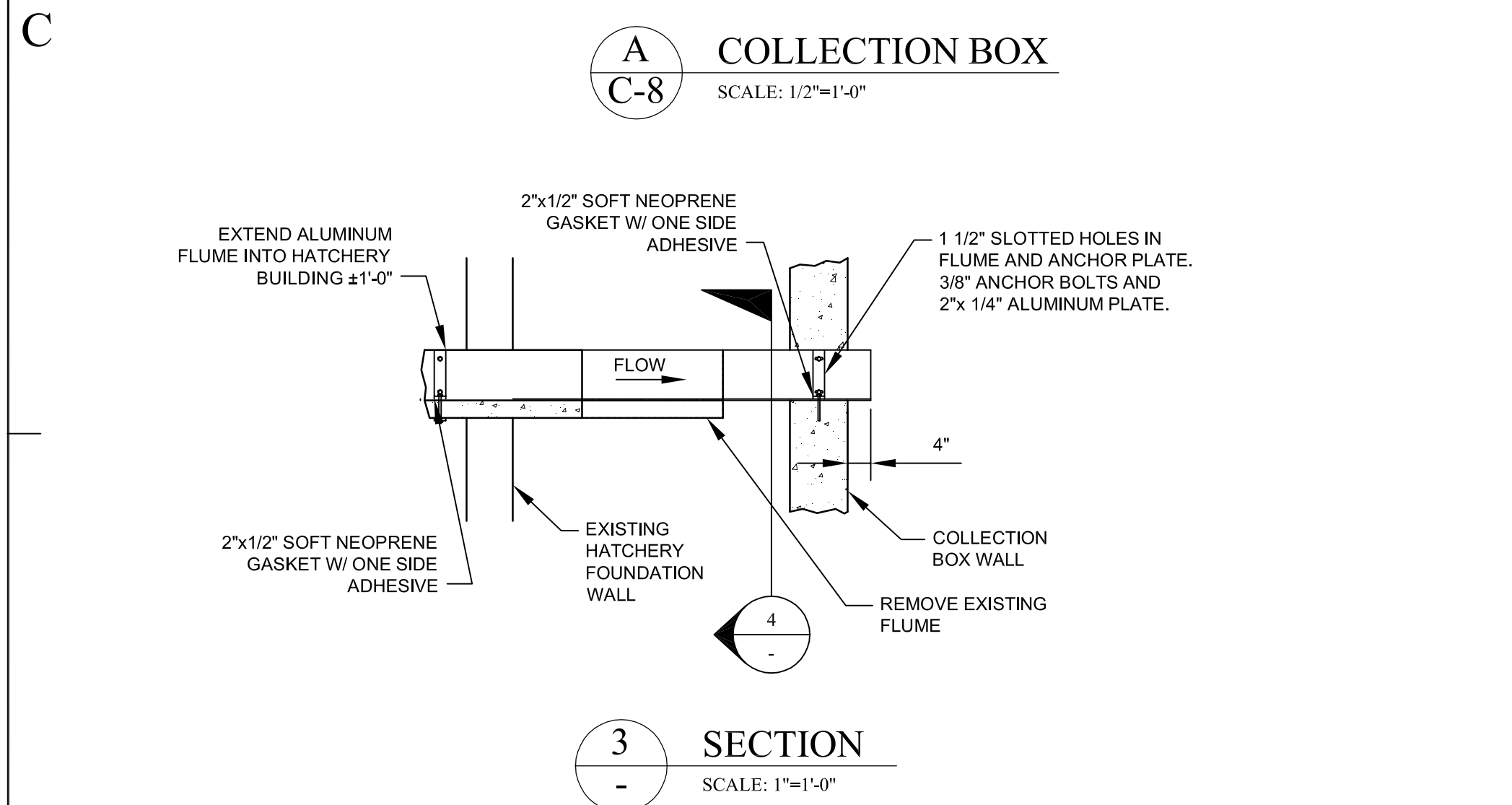
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C-13

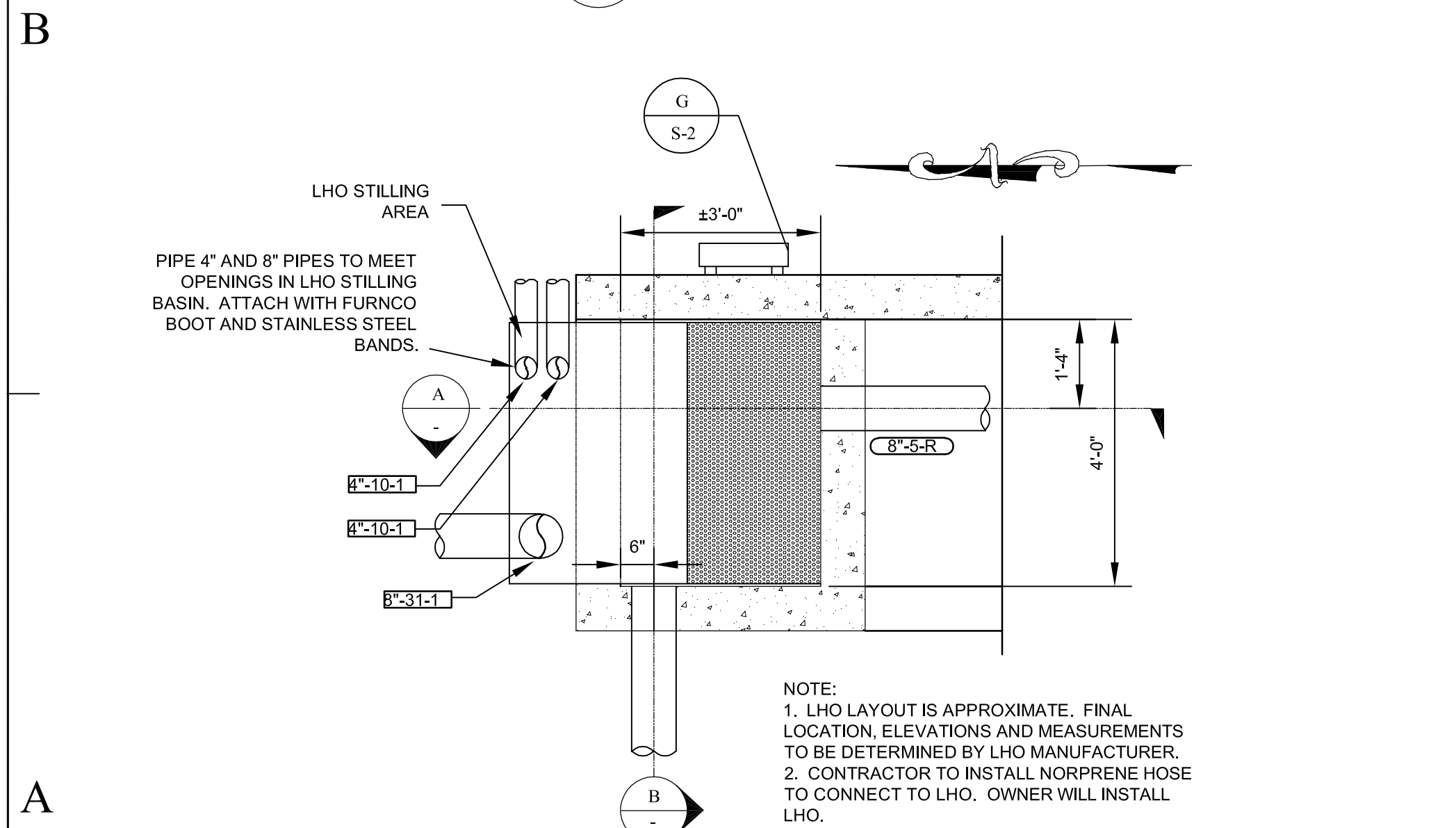
SHEET 16 OF 25



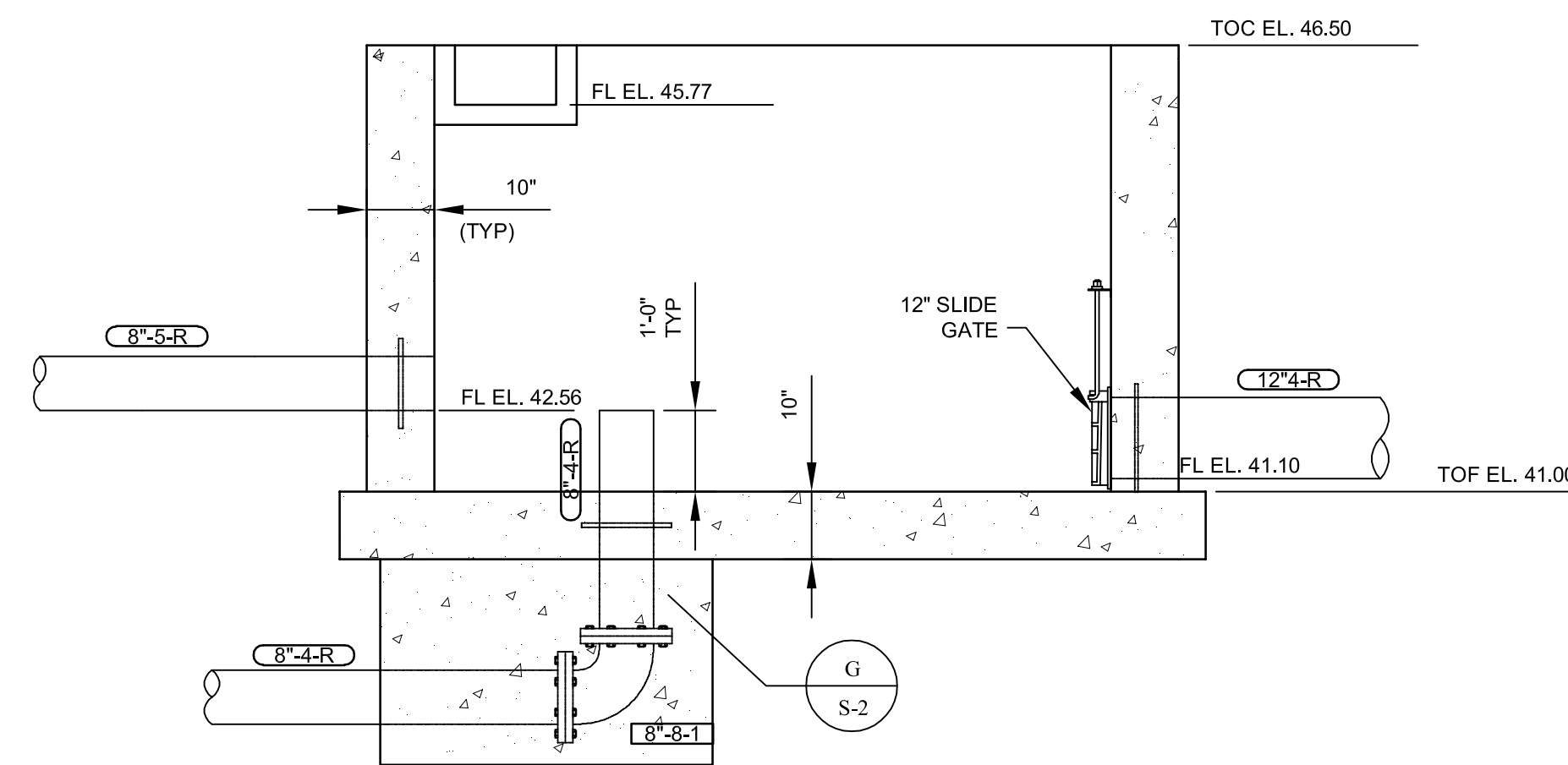
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C-8 SCALE: 1/2"=1'-0"



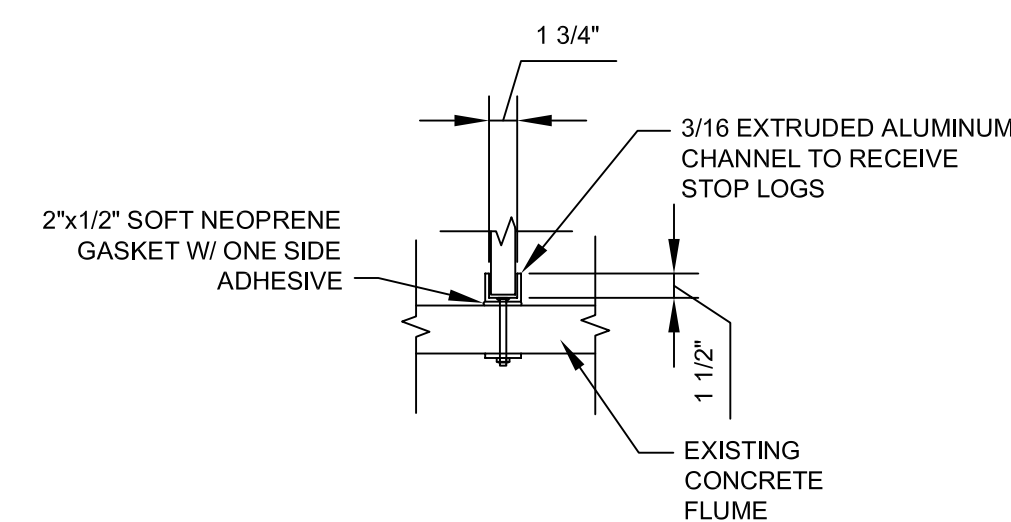
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D C-8 SMALL RACEWAY HEADBOX

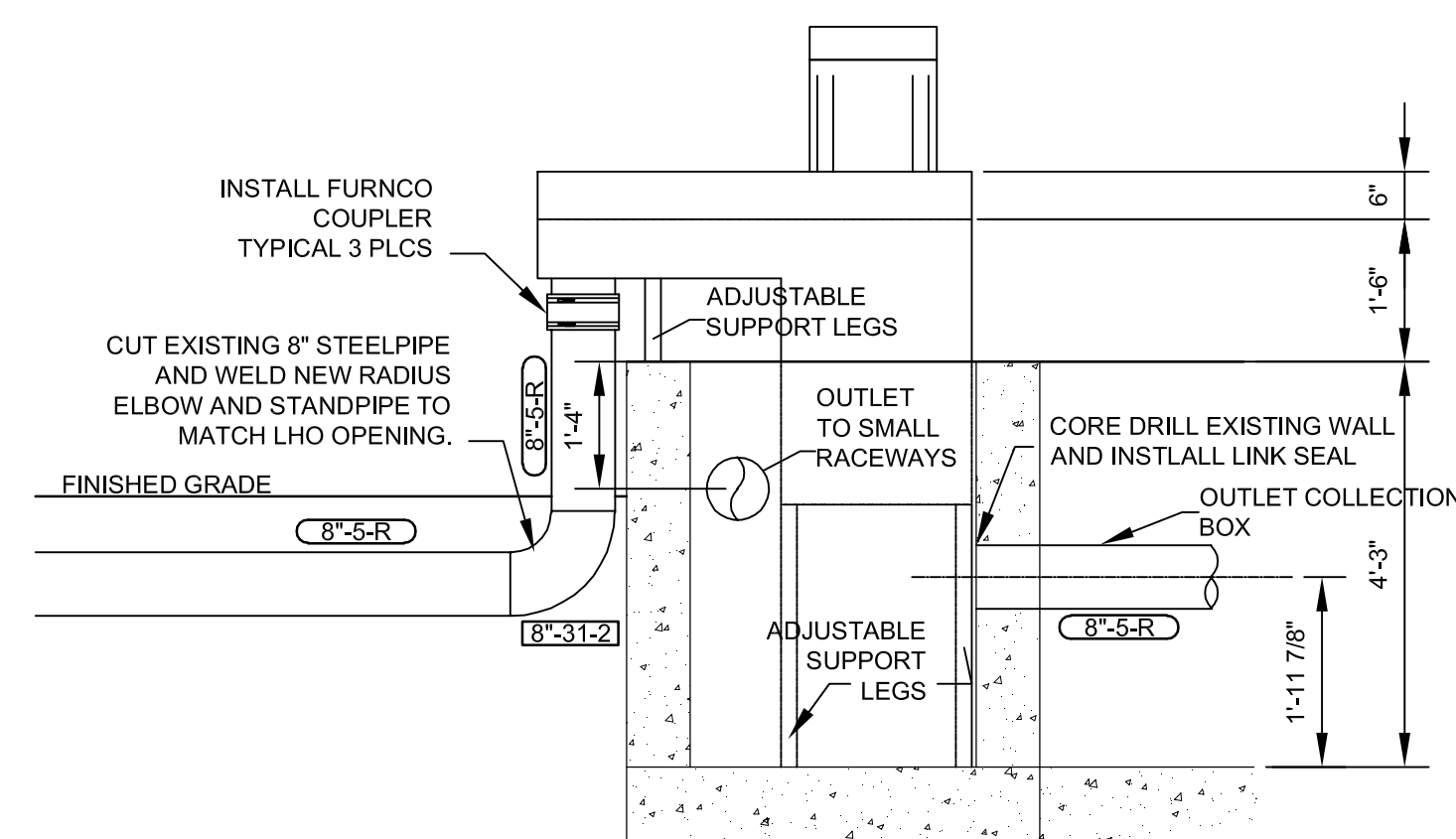


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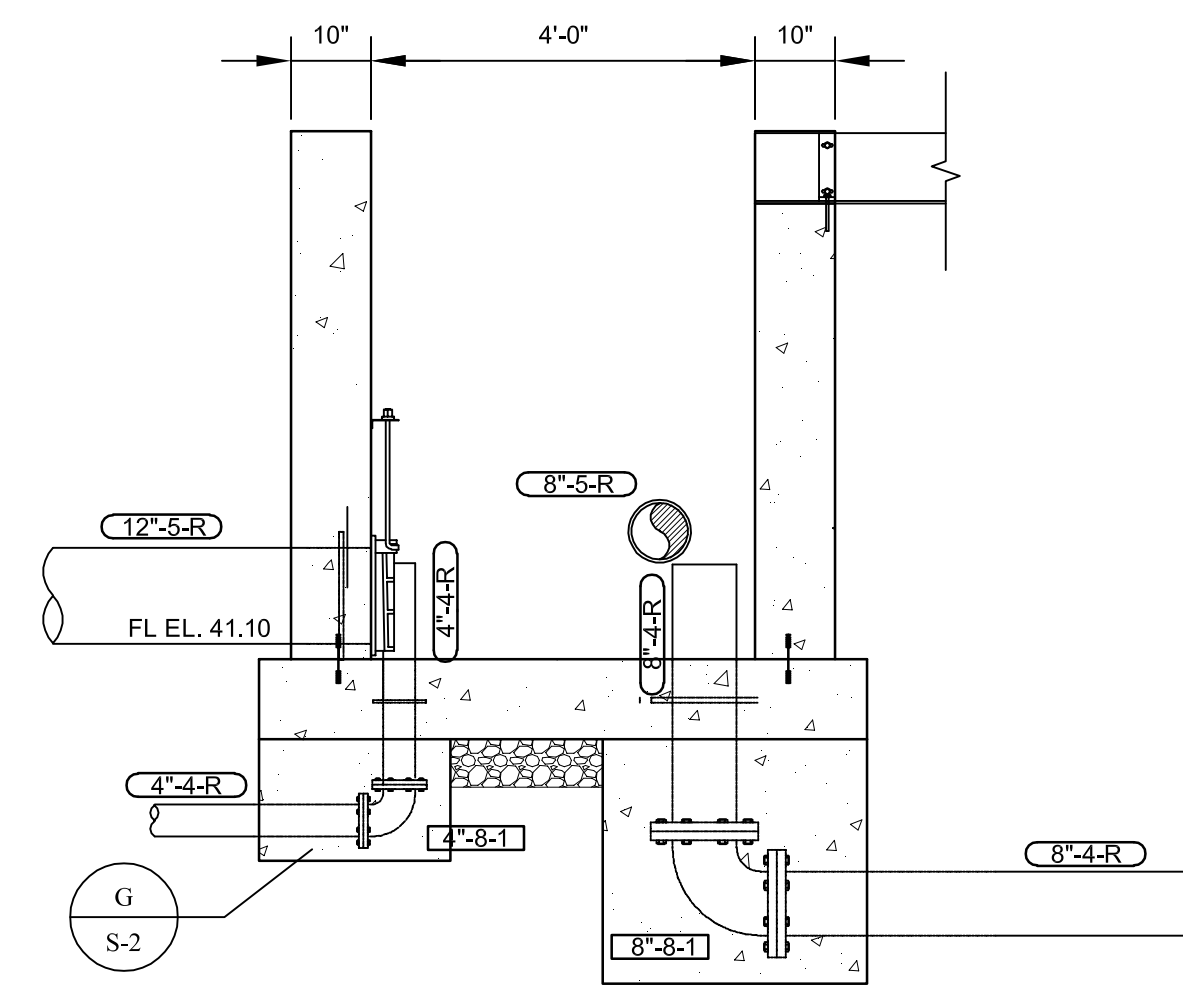


C
C-8

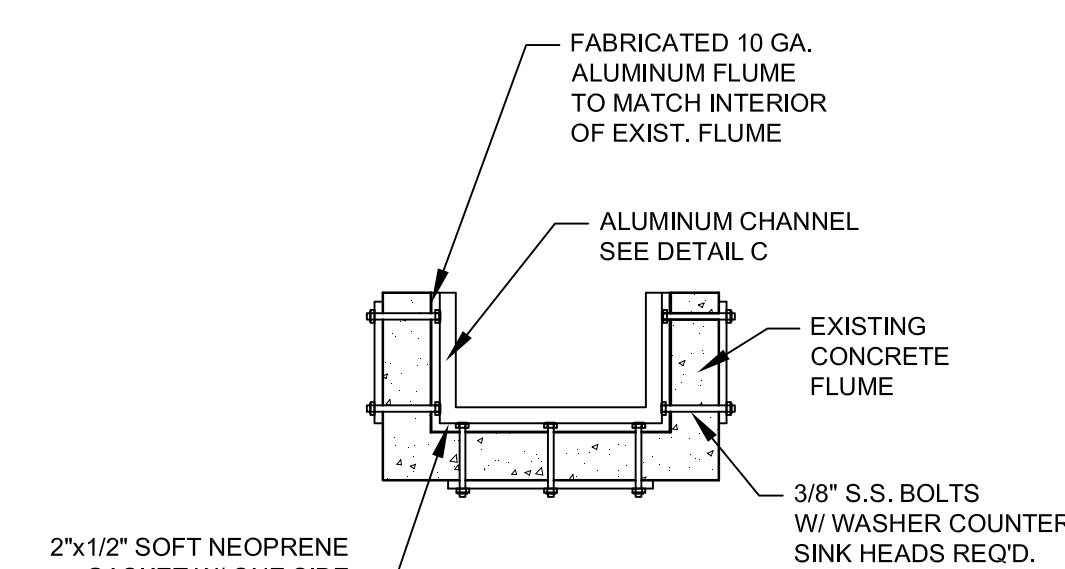
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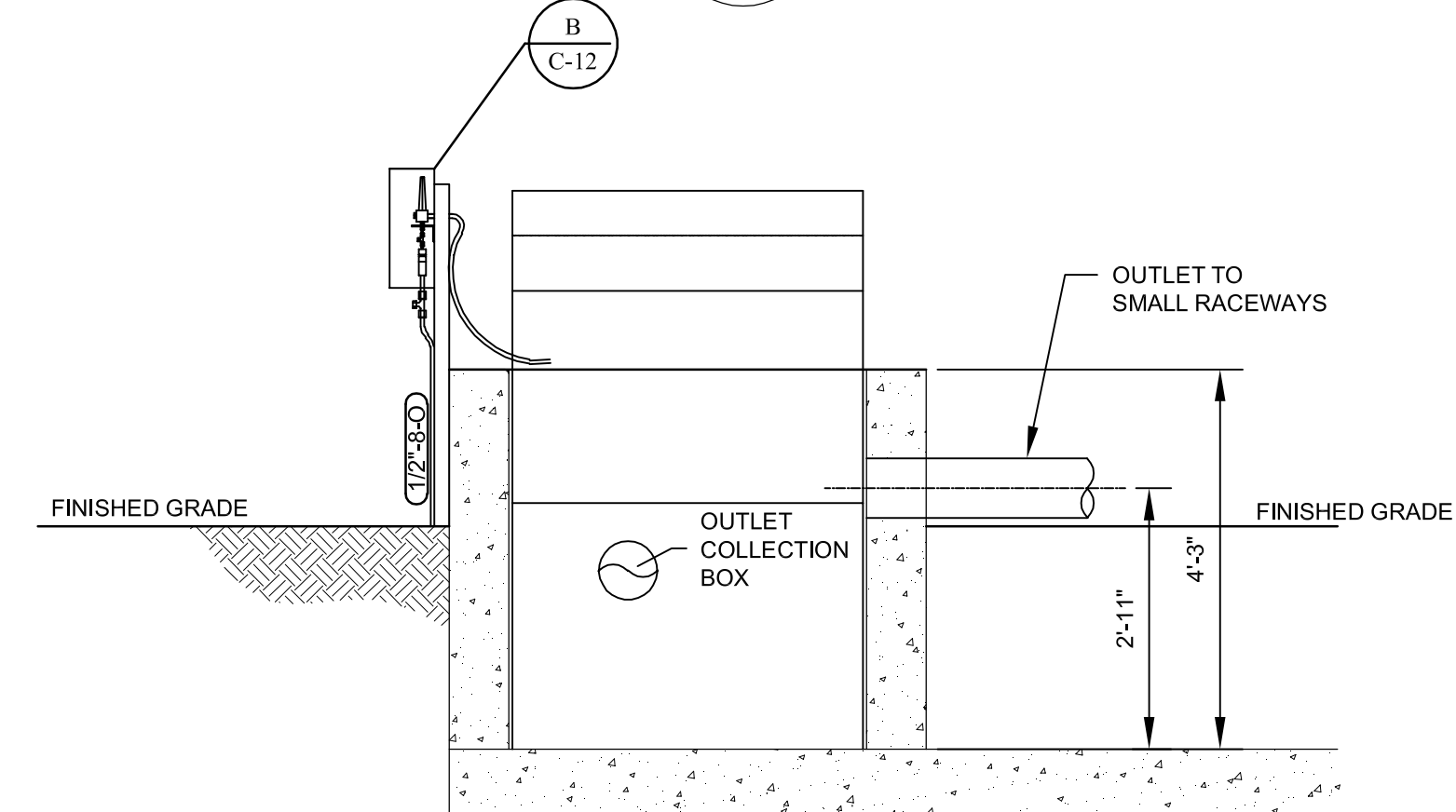
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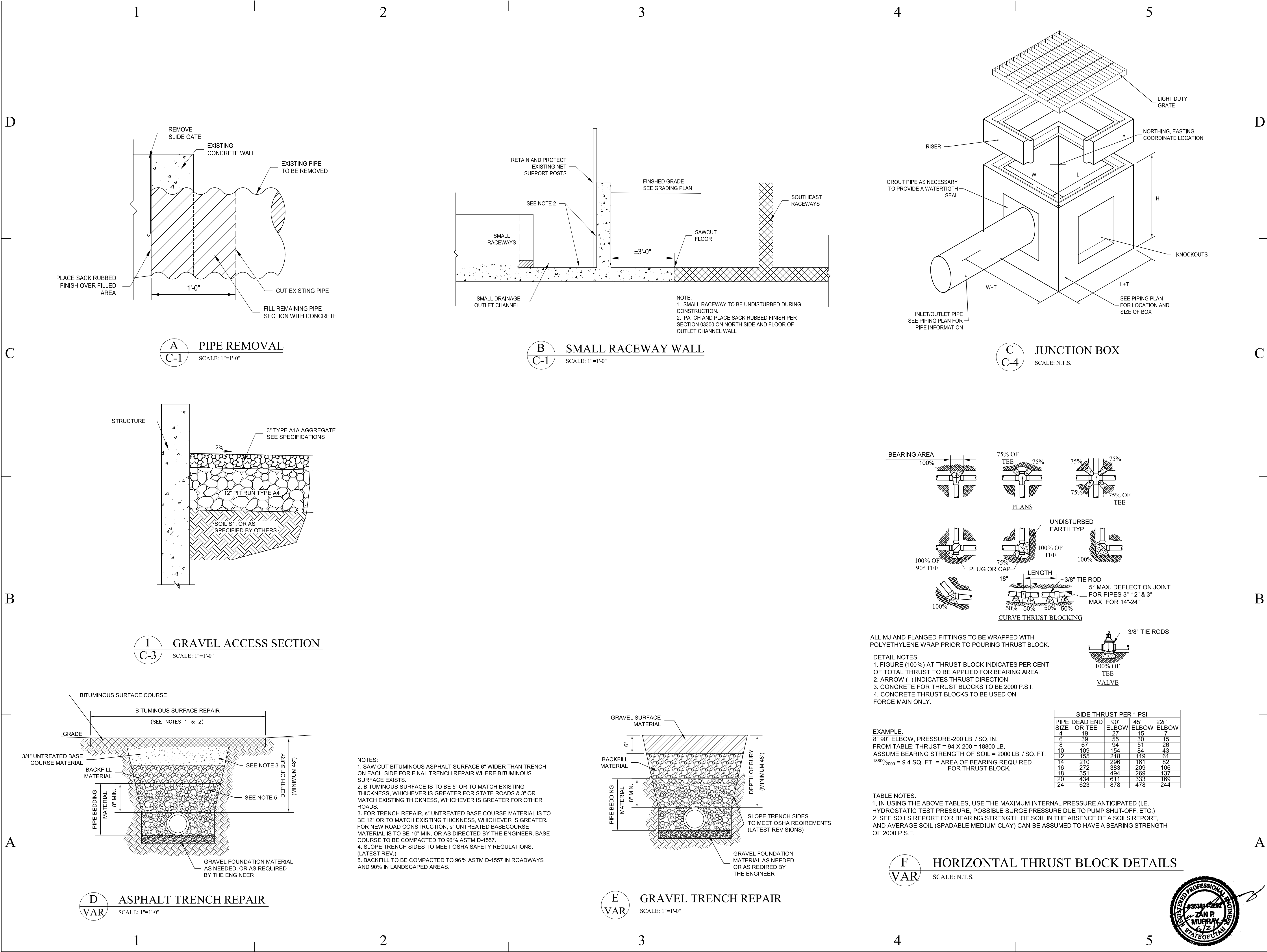


4 SECTION



6 SECTION
SCALE: 1"=1'-0"





State of Utah
Department of Administrative Services

DFCM

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Internet: <http://dfcm.utah.gov>

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ISSUE DATE: APRIL 22, 2003

DFCM PROJECT NO: 02255520

CAD PROJECT NO: 57029

CAD DWG FILE: C-506.DWG

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SHEET TITLE
CIVIL
DETAILS

SHEET NUMBER
C-16

SHEET 19 OF 25

SEAL

REGISTERED PROFESSIONAL ENGINEER
ZAN P. MURPHY
STATE OF UTAH



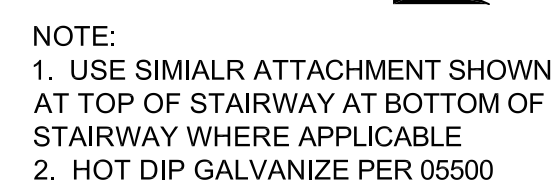
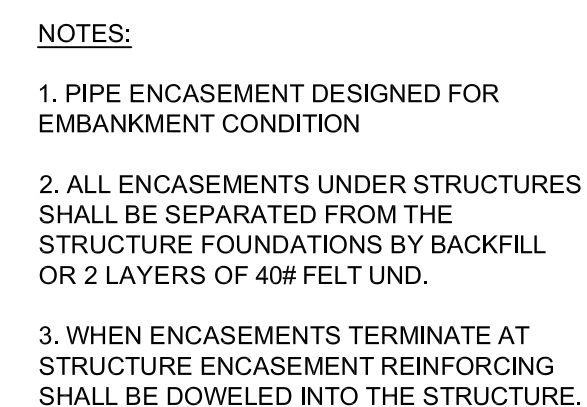
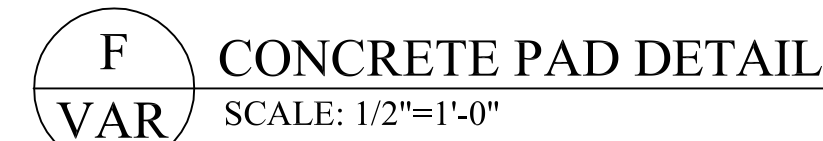
C



A
VAR



- D SEALANT GROOVE
N.T.S.



B
C-8



5 MODIFIED STAIR BOT. CONNECTION
C-8



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CAD PROJECT NO: 57029

CAD DWG FILE: S

DRAWN BY: ZPM

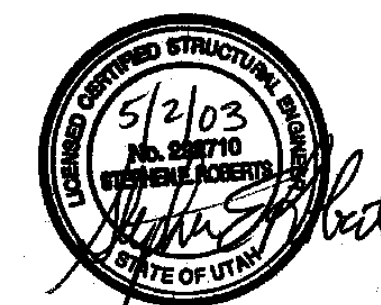
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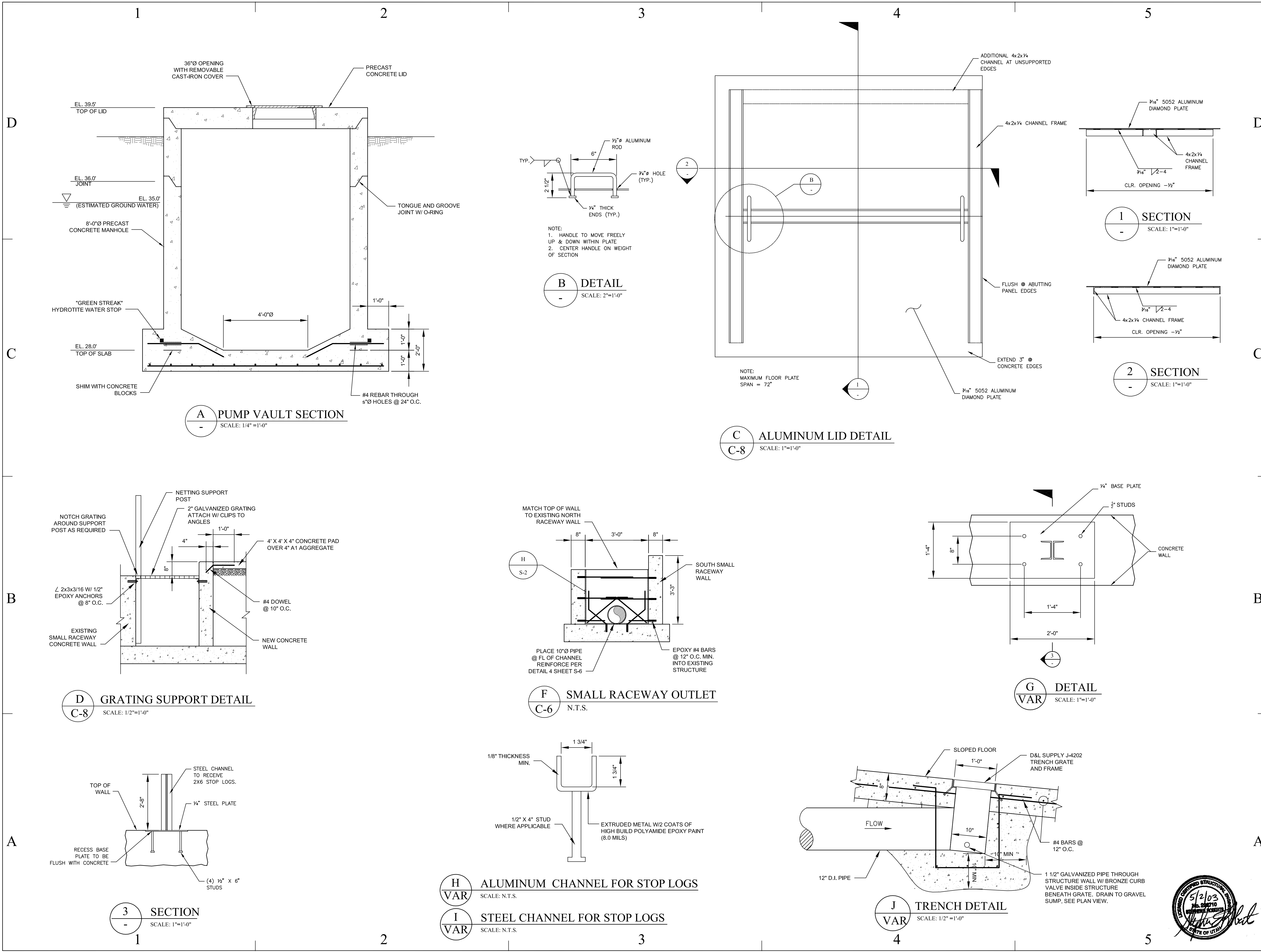
SHEET TITLE

STRUCTURAL DETAILS

SHEET NUMBER

S-2





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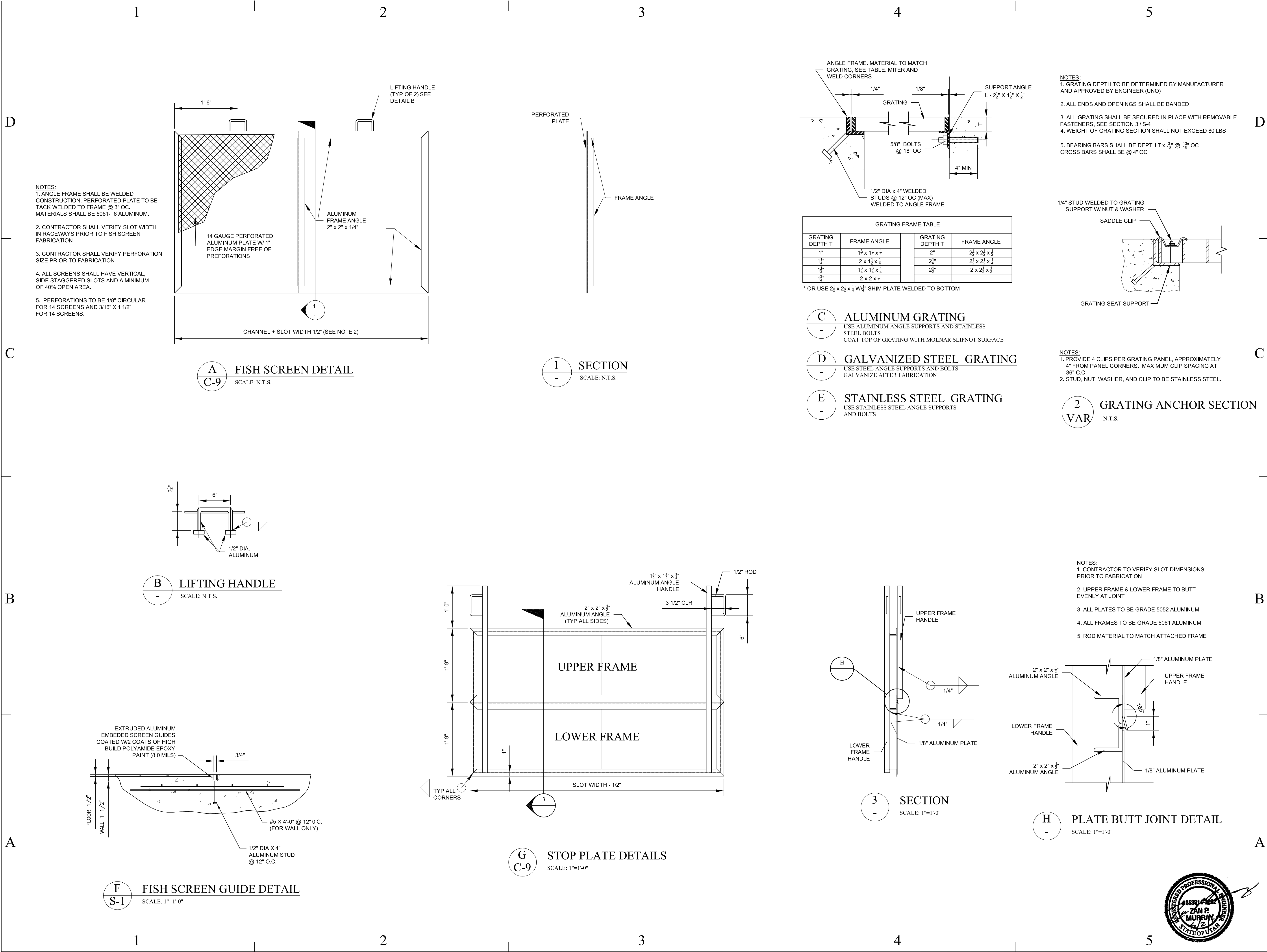
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		CAD PROJECT NO: 57029
		CAD DWG FILE: S-103.DWG
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SHEET TITLE
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S-3

SHEET 22 OF 25



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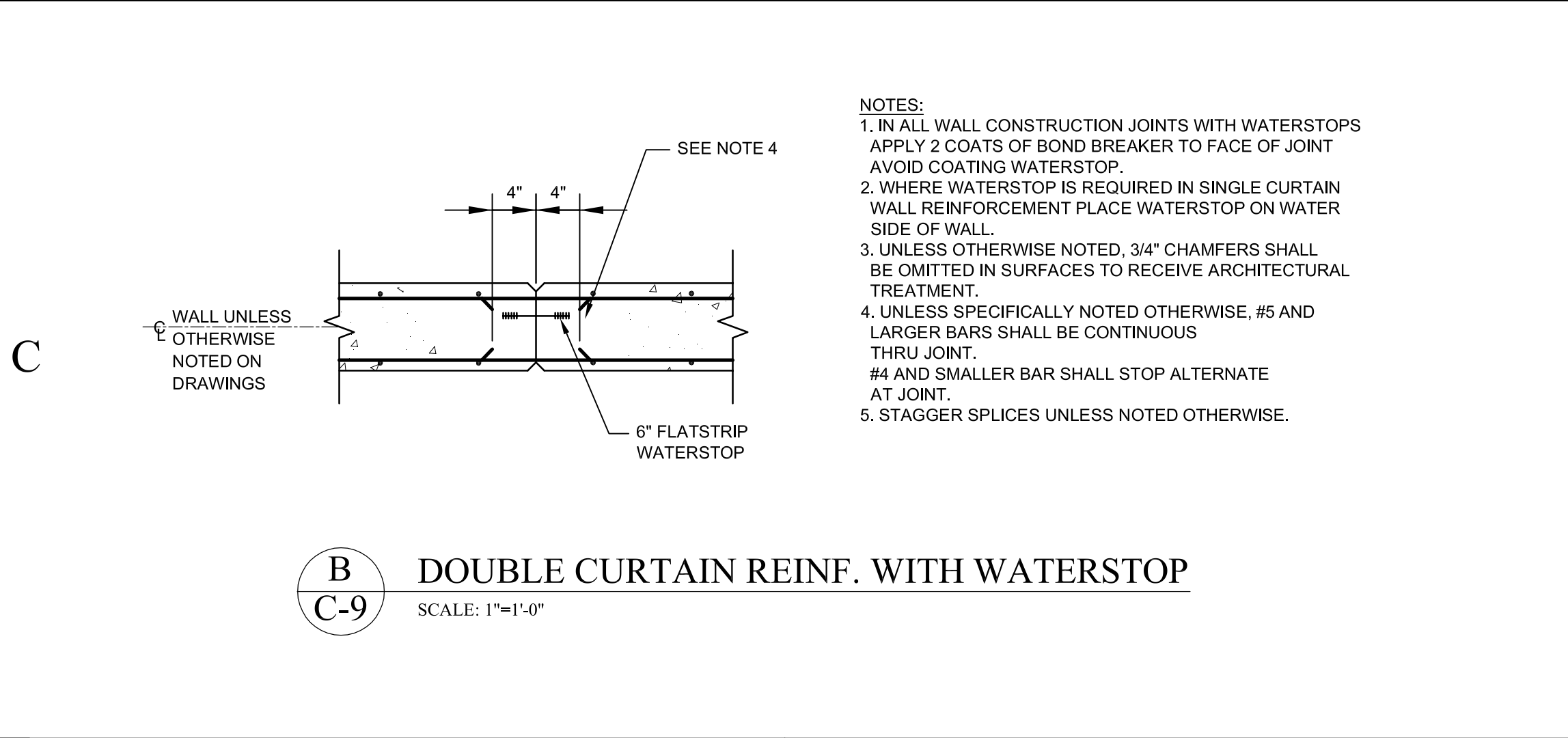
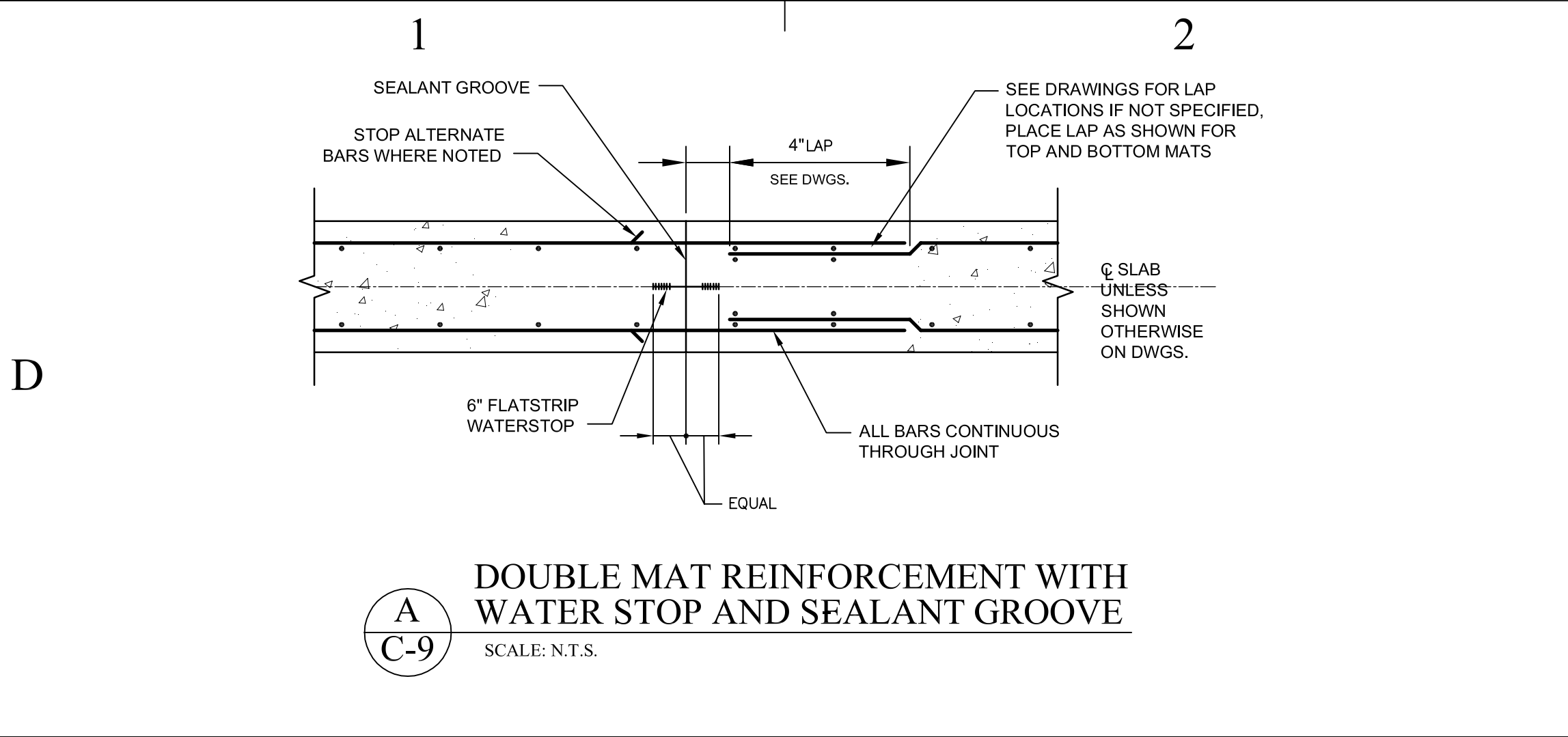
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		CAD DWG FILE: S-104.DWG
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		SHEET NUMBER
		S-4
		SHEET 23 OF 25

REGISTERED PROFESSIONAL ENGINEER
ZAN P. MURRAY
43581
STATE OF UTAH
4/21



1

D

BAR SIZE	LAP CLASS	f'c=3,000 psi		f'c=4,000 psi		f'c=5,000 psi		f'c=6,000 psi	
		CAT.1	CAT.2	CAT.1	CAT.2	CAT.1	CAT.2	CAT.1	CAT.2
#3	A	16	25	14	21	13	19	12	17
	B	21	32	19	28	17	25	15	23
#4	A	22	33	19	28	17	25	15	23
	B	28	43	25	37	22	33	20	30
#5	A	27	41	24	36	21	32	19	29
	B	36	53	31	46	28	41	25	38
#6	A	33	49	28	43	25	38	23	35
	B	43	64	37	55	33	50	30	45
#7	A	48	72	42	62	37	56	34	51
	B	62	93	54	81	48	72	44	66
#8	A	55	82	47	71	42	64	39	58
	B	71	106	61	92	55	83	50	76
#9	A	62	92	53	80	48	72	44	65
	B	80	120	69	104	62	93	57	85

NOTES:

1. FOR GRADE 60 REINFORCING STEEL BARS.

2. ALL LAP SPLICES SHALL BE CLASS B, UNLESS NOTED OTHERWISE.

3. CATEGORY 1: CLEAR COVER >= db & CLR. SPACING >= db, AND STIRRUPS OR TIES THROUGHOUT Ld ARE PROVIDED. CATEGORY 1: CLEAR COVER >= db & CLR. SPACING >= 2db. CATEGORY 2: CLEAR COVER < db OR CLR. SPACING < 2db. FOR TOP BARS MULTIPLY LAP LENGTH LISTED BY 1.30 TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BARS.

5. MODIFY ABOVE VALUES FOR LIGHT-WEIGHT CONCRETE.

1

TYPICAL LAP SPLICE SCHEDULE

2

D

NOTES:

REFER TO OTHER DETAILS FOR NEW WALL REIN. REQUIREMENTS
REFER TO OTHER DETAILS FOR NEW WALL THICKNESS, C.

2

TYPICAL CONNECTION OF NEW CONC. WALL ROUND HOLE PENETRATIONS

SCALE: N.T.S.

3

D

NOTE:

REFER TO OTHER DETAILS FOR WALL REINFORCING REQUIREMENTS.

3

TYPICAL TYPE 2 WALL CONTROL JOINT DETAIL

SCALE: N.T.S.

4

D

NOTE:

PROVIDE (4) REINFORCING BARS FOR WALLS w/ ONE MAT OF REBAR & (4) REINFORCING BARS EA. FACE FOR WALLS w/ TWO MATS OF REBAR.
REFER TO GENERAL NOTES FOR REBAR CLEARANCE REQUIREMENTS. REFER TO OTHER DETAILS FOR REBAR SIZE AND SPACING REQUIREMENTS. BAR SPACING REFERS TO THE LESSER OF THE VERT. OR HORIZ. BAR SPACING. DETAIL IS SIMILAR FOR SLAB LOCATIONS.

4

TYPICAL CONCRETE WALL/SLAB DETAIL FOR ROUND HOLE PENETRATIONS

SCALE: 1"=1'-0"

5

A

NOTES:

CORNER & INTERSECTION BARS TO MATCH SIZE & SPACING OF HORIZONTAL BARS. REFER TO OTHER DETAILS & GENERAL NOTES FOR BAR CLEARANCE REQUIREMENTS. REFER TO OTHER SECTIONS & DETAILS FOR REQUIRED BAR SIZE AND SPACING. VERTICAL BARS NOT SHOWN FOR CLARITY. REFER TO OTHER DETAILS.

5

TYPICAL CONCRETE WALL REIN. DETAILS FOR WALLS WITH TWO MATS OF REIN.

SCALE: N.T.S.

6

A

NOTES:

CORNER & INTERSECTION BARS TO MATCH SIZE & SPA. OF HORIZ. BARS. CENTER VERTICAL BARS IN WALL UNLESS NOTED OTHERWISE. REFER TO OTHER DETAILS FOR REQUIRED BAR SIZE AND SPACING.

6

TYPICAL CONC. WALL INTERSECTION DETAILS WALL w/ ONE LAYER OF REINFORCING

SCALE: N.T.S.

7

A

NOTES:

REFER TO FOUNDATION PLANS FOR LOCATION & ELEVATIONS. REFER TO OTHER DETAILS FOR FOOTING REINFORCING. FOOTING TRANSVERSE REIN. NOT SHOWN FOR CLARITY.

7

TYPICAL WALL FOOTING DETAIL

SCALE: N.T.S.

8

A

NOTES:

REFER TO GENERAL NOTES FOR REBAR CLEARANCE REQUIREMENTS. REFER TO OTHER DETAILS FOR REBAR SIZE AND SPACING. BAR SPACING REFERS TO THE LESSER OF THE VERT. OR HORIZ. BAR SPACING. DETAIL IS SIMILAR FOR SLAB LOCATIONS.

8

TYPICAL CONCRETE WALL/SLAB DETAIL FOR ROUND HOLE PENETRATIONS

SCALE: N.T.S.

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Department of Administrative Services

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SHEET NUMBER		
S-6		
SHEET 25 OF 25		

REGISTERED PROFESSIONAL ENGINEER

355301-222

ZAN P. MURRAY

STATE OF UTAH